UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

TRANSCANADA KEYSTONE PIPELINE, LP AND TC OIL PIPELINE OPERATIONS INC., Plaintiffs, vs. JOHN F. KERRY, Secretary of the Department of State; LORETTA E. LYNCH, Attorney General of the United States; JEH CHARLES JOHNSON, Secretary of the Department of Homeland Security; and SALLY JEWELL, Secretary of the Department of the Interior, Defendants.	Civil Action No. 4:16-cv-00036 **[Proposed] Amicus Brief of Environmental Groups In Support of Defendants**

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INTRODUCTION

In his historic climate speech in June 2013, President Barack Obama said the Keystone XL pipeline would be approved only if it "does not significantly exacerbate the problem of carbon pollution."[1] The president announced this test in the face of overwhelming evidence that climate change is the most pressing environmental problem of our time. Globally, 2015 was the hottest year on record, and 2016 is on course to be even hotter. Indeed, fifteen of the sixteen hottest years on record have occurred since 2000. Around the world, sea levels are rising, extreme weather is becoming more common, and biodiversity is in decline, including species critical to our economy. Against this background, the State Department found that Keystone XL would exacerbate climate change, and therefore denied the permit for the pipeline as contrary to the national interest. The State Department's decision was consistent with the law, and was compelled by the irrefutable scientific evidence that we must take immediate action to combat climate change now, before it is too late.

Keystone XL would have been one of the largest crude oil pipelines in the world, transporting up to 830,000 barrels, or about 3.5 million gallons, per day of tar sands crude oil from Canada to the U.S. Gulf Coast. Tar sands crude oil—named for its heavy, tar-like consistency—is one of the most environmentally destructive energy sources on the planet. In addition to the devastating local land, air, and water impacts from the

[1] President Barack Obama, *Remarks by the President on Climate Change*, Georgetown University, Washington D.C., June 25, 2013, http://www.whitehouse.gov/the-press-office/2013/06/25/remarks-president-climate-change (Ex. 1).

mining processes used to extract it from the ground, tar sands crude oil poses a serious threat to our climate. It is extremely carbon intensive, meaning that compared to other fuels, it emits higher levels of carbon dioxide and other greenhouse gases that cause global warming.

But the profound harm from Keystone XL would not have been limited to the climate. The pipeline would have increased air pollution in the areas around Gulf Coast refineries by making massive amounts of tar sands crude oil available for processing. The communities surrounding these refineries, many of which are low-income communities and communities of color, already suffer from some of the worst air pollution in the country. Keystone XL would have added to that unfair burden.

Keystone XL also posed significant threats to the hundreds of streams, rivers, lakes, aquifers, and wetlands it would have crossed, both from construction impacts and from the risk of oil spills. Because tar sand crude oil is so heavy and viscous, it is nearly impossible to clean up after spills and can cause lasting and perhaps irreversible damage to water quality and aquatic ecosystems. Construction impacts and inevitable spills also would have harmed the diverse wildlife that lives along the 1,204-mile-long route, including many endangered species, as well as risked contamination of aquifers that provide drinking and irrigation water to millions of people. The State Department correctly decided that these risks were not in the national interest.

The State Department also determined that denying the permit for Keystone XL was necessary as a matter of foreign policy to secure greenhouse gas reductions from other countries. The United States is the world's second-largest greenhouse gas emitter

(and the largest per capita). Unless we commit to the types of actions we are demanding of others, the United States will have no credibility abroad. Plaintiff TransCanada argues that the State Department denied the permit solely to influence the perceptions of other countries, but millions of people around the world were concerned about Keystone XL precisely because of the overwhelming evidence that it would exacerbate climate change.

As the government has ably argued, there is no basis in law for TransCanada's challenge. TransCanada has acceded to, and even supported, the State Department's authority over international oil pipelines for years. Only now, because it has received a decision that it does not like, does it challenge that authority. But the State Department had a compelling reason to deny this permit at this time—climate change demands action now. For all of these reasons, the State Department properly determined that Keystone XL would not serve the national interest. The Court should grant the government's motion and dismiss TransCanada's complaint.

BACKGROUND

I. The approval process for cross-border oil pipelines

The executive branch has long regulated international border crossings of oil pipelines. In 1968, President Lyndon B. Johnson signed an executive order requiring a permit from the Secretary of State for any oil pipeline that would cross an international border. Exec. Order No. 11,423, 33 Fed. Reg. 11,741 (Aug. 16, 1968) (Ex. 2). The order allowed the State Department to issue a permit only if it found, after consultation with various other federal agencies, that the pipeline would "serve the national interest." *Id.*

§ 1(b), (d). It also allowed any of the consulting agencies to appeal the State Department's determination to the president. *Id.* § 1(f).

In 2004, President George W. Bush amended the procedures for review of such pipelines in Executive Order 13,337. Exec. Order No. 13,337, 69 Fed. Reg. 25,299 (Apr. 30, 2004) (Ex. 3). Besides expanding the consulting agencies to include the Environmental Protection Agency, among others, *id.* § 1(a)(ii), Executive Order 13,337 is materially identical to Executive Order 11,423. It maintains the permit requirement for any international border crossing of an oil pipeline and allows the State Department to issue a permit only if it finds that the pipeline would "serve the national interest." *Id.* § 1(g). As with the previous executive order, any consulting agency may appeal the State Department's decision to the president. *Id.* § 1(i).

II. Environmental review of the Keystone XL pipeline

TransCanada first submitted an application for a cross-border permit for a pipeline from Canada to the United States in 2008. Compl. (ECF No. 1), Ex. B at 8. The issuance of the permit was a "major [f]ederal action" triggering the National Environmental Policy Act (NEPA). *See* 42 U.S.C. § 4332. NEPA requires all federal agencies to prepare a "detailed statement"—called an environmental impact statement (EIS)—regarding any "major Federal actions significantly affecting the quality of the human environment." *Id.* § 4332(C). Accordingly, the State Department began to prepare an EIS pursuant to the Act. *See* Compl., Ex. B at 8.

In late 2011, Congress passed a law requiring the administration to make a national interest determination by February 2012. On January 18, 2012, the State

Department denied the permit, citing concerns about the route in Nebraska and the accelerated timeline. *Id.*, Ex. B at 8. Shortly thereafter, TransCanada announced that it would build a pipeline from Cushing, Oklahoma, to the Gulf Coast; TransCanada named this segment the "Gulf Coast" pipeline. *Id.* Because the Gulf Coast pipeline does not have an international border crossing, TransCanada did not apply for a permit from the State Department. *Id.* The Gulf Coast pipeline is now complete. *Id.*

TransCanada applied to the State Department for the permit at issue in this litigation on May 4, 2012. Compl., Ex. B at 2. It proposed to build and operate a 1,204-mile-long pipeline from Alberta, Canada, to Steele City, Nebraska. *Id.*, Ex. B at 6. In the United States, the pipeline would have traversed Montana, South Dakota, and Nebraska, primarily crossing privately owned range and farm lands. *Id.*, Ex. B at 19. In Steele City, Nebraska, it would have connected to TransCanada's existing pipeline network that serves refineries and export terminals on the Gulf Coast. *Id.*, Ex. B at 7. At three feet in diameter and able to carry up to 830,000 barrels per day of crude oil, Keystone XL would have been one of the largest oil pipelines in the United States. *Id.* ¶ 3 & Ex. B at 6.

Upon receiving TransCanada's application in 2012, the State Department began to revise and update its environmental review documents for the project. The State Department published its draft and final Supplemental EISs in 2013 and 2014, respectively. Compl., Ex. B at 4-5. Public interest in the project ran high: the State Department received nearly 5 million comments during the environmental review process, a response that was "unprecedented." *Id.*

In early 2015, Congress passed the "Keystone Pipeline Approval Act," a bill that authorized the development of Keystone XL. President Obama swiftly vetoed that bill, stating that it "attempts to circumvent longstanding and proven processes for determining whether or not building and operating a cross-border pipeline serves the national interest." *Veto Message to the Senate: S.1, Keystone XL Pipeline Approval Act*, 2015 WL 758544, at *1 (Feb. 24, 2015) (Ex. 4). On November 3, 2015, in its Record of Decision and National Interest Determination, the State Department denied the permit for Keystone XL, finding that it was not in the national interest. *See generally* Compl., Ex. B.

TransCanada filed suit in this Court on January 6, 2016, claiming that the executive branch does not have constitutional authority to deny the permit.

ARGUMENT

The State Department correctly decided that Keystone XL was contrary to the national interest. TransCanada argues that Keystone XL would have negligible environmental impacts, but if constructed, the pipeline would exacerbate climate change and harm air quality, water bodies, and wildlife. Compl., Ex. B at 9-14, 16-20. In its Record of Decision, the State Department stated that "[a]ll of these potential impacts were part of the Department's consideration." *Id.*, Ex. B at 31. Additionally, the State Department found that approving the pipeline would harm the United States' ability to convince other countries to make meaningful greenhouse gas reductions of their own. *Id*. Both of these reasons support the State Department's conclusion that Keystone XL was not in the national interest.

I. The State Department properly denied the permit for Keystone XL based on its significant environmental impacts

A. Tar sands crude oil is uniquely dirty and energy intensive to extract and process

Keystone XL would have enabled the extraction, transport, refining, and consumption of tar sands crude oil, one of the dirtiest and most destructive fuels on our planet. Tar sands—also known as oil sands or Western Canadian Sedimentary Basin crude oil[2] —is "heavy, sour, viscous crude oil that is produced and marketed differently" than other types of oil. Compl., Ex. B at 7.

Broadly speaking, Canadian tar sands crude oil refers to the massive petroleum deposits underlying the boreal forests and wetlands of Alberta. *Id.*, Ex. B at 2, 7. These deposits are composed of a mixture of sand, clay, other minerals, and bitumen. Steven Watmore, *Tar Sands Oil and Pipeline Safety: Examining Regulatory Shortcomings*, 59 Wayne L. Rev. 175, 176 (2013) (Ex. 5); Final Supplemental Environmental Impact Statement (SEIS)[3] at 1.4-29. Bitumen, the main component of tar sands, is a heavy and viscous form of oil that is nearly solid at room temperature. Watmore, *supra*, at 175-76; Final SEIS at 1.4-29. Because it is so viscous, tar sands oil does not flow freely from the ground and cannot be pumped from wells in a liquid form like most conventional oil.

[2] The terms "tar sands" and "oil sands" can be used interchangeably. Steven Watmore, *Tar Sands Oil and Pipeline Safety: Examining Regulatory Shortcomings*, 59 Wayne L. Rev. 175, 176 (2013).

[3] U.S. Department of State, Bureau of Oceans and International Environmental and Scientific Affairs, *Final Supplemental Environmental Impact Statement for the Keystone XL Project,* Jan. 2014, https://keystonepipeline-xl.state.gov/finalseis/index.htm (Ex. 6).

Watmore, *supra*, at 177. Instead, tar sands oil is mined from the earth using two methods: surface mining and in situ extraction. *Id.* at 177; Final SEIS at 1.4-29, 4.15-107.

Surface mining is akin to strip or "open pit" mining operations. Watmore, *supra*, at 177-78; Final SEIS at 4.15-107. Heavy earth-moving equipment clears the forest covering the deposits so that excavators and trucks can scoop up and remove the tar sands. Watmore, *supra*, at 177-78; Final SEIS at 1.4-29. These strip mining operations cover vast swaths of the Alberta landscape. Watmore, *supra*, at 177-78 & n.24. Once the tar sands crude oil has been removed from the earth, the bitumen must be separated—a process that creates immense amounts of polluted slurry, which is dumped into giant man-made ponds. Watmore, *supra*, at 178. These ponds cover massive amounts of land; as of 2013, there were over 170 square kilometers (66 square miles) of tailing ponds in Canada. *Id.*

In situ extraction, which is used to mine deeper deposits of tar sands, has different, but equally damaging effects. Most commonly, superheated steam is injected deep underground to melt the bitumen so that it can be pumped to the surface. Watmore, *supra*, at 178-79; Final SEIS at 1.4-29, 4.15-107. Other techniques involve injecting chemicals into the tar sands formations to dissolve the bitumen or igniting an underground fire in a tar sands formation to melt the bitumen (called the "fireflood" method). Watmore, *supra*, at 179 n.32; Final SEIS at 1.4-29. Not surprisingly, in situ extraction requires large amounts of energy. Watmore, *supra*, at 179.

Both of these mining methods have significant impacts on the local environment, causing fragmentation or total destruction of habitat for the diverse range of animals

and plants living in Canada's boreal forests. Watmore, *supra*, at 180. These boreal forests are massive and essential carbon sinks for our planet, and their loss greatly exacerbates climate disruption. As of January 2014, tar sands mining had disturbed 276 square miles of land in Alberta. Final SEIS at 4.15-108. The potential for further habitat destruction is great: the government of Alberta estimates that there are roughly 140,000 square kilometers (54,000 square miles) of tar sands deposits in that province alone. Watmore, *supra*, at 178 n.30; Final SEIS at 4.15-107.

Once extracted, the bitumen is rock hard at temperatures less than fifty degrees Fahrenheit. Watmore, *supra*, at 179. Therefore, the bitumen must be upgraded or diluted before it can be transported through a pipeline. *Id.*; Final SEIS at 1.4-29. Producers usually dilute bitumen with lighter petroleum products, such as natural gas condensate, to make it more fluid. Watmore, *supra*, at 180; Final SEIS at 1.4-29. This mixture, which is usually about 30 percent diluent and 70 percent bitumen, is called diluted bitumen or "dilbit." Final SEIS at 1.4-29. Keystone XL would have transported this "dilbit" form of tar sands crude oil over private land, important aquifers, and essential habitat areas to the Gulf Coast for refining.

B. Keystone XL would have caused annual greenhouse gas emissions equivalent to those from millions of cars

By enabling the refining and consumption of an immense amount of dirty tar sands crude oil, Keystone Xl would have increased emissions of carbon dioxide and other greenhouse gases that cause global warming. As part of the environmental review process, the State Department conducted a "lifecycle" analysis of Keystone XL's

greenhouse gas emissions. Compl., Ex. B at 9. A lifecycle analysis evaluates *all* of the environmental impacts of a proposed action, from production through end use. For oil, a lifecycle analysis is often called a "wells-to-wheels" analysis because it evaluates the impacts of the oil from the extraction (the "wells") to the combustion of the refined gasoline in cars (the "wheels"). *Id.*, Ex. B at 9-10.

On a lifecycle basis, tar sands crudes are significantly more carbon intensive than other types of crudes for a number of reasons. Heavy tar sands crude oil requires more energy to refine than the average crude oil refined in the United States. Final SEIS at 4.14-29, Table 4.14-3. Refining tar sands crude oil also produces more petroleum coke, a dirty co-product that is often shipped to China, where it is burned as a fuel source. *Id.* at 4.14-27 to 4.14-28. But by far, the main reason that Canadian tar sands crude oil wreaks so much havoc on the climate is because of how it is mined. *Id.* at 4.14-29, Table 4.14-3. Both methods of mining tar sands—surface mining and in situ extraction—emit massive amounts of carbon. In fact, the extraction of tar sands crude oil emits two to three times more greenhouse gases than the extraction of the average crude oil refined in the United States. *Id.*

On a wells-to-wheels basis (i.e., including combustion in cars), the State Department estimated that tars sands crude oil emits 17 percent more greenhouse gases than the average crude oil refined at U.S. refineries. Compl., Ex. B at 10. The State Department was not the only agency to reach this conclusion. In a February 2, 2015, letter submitted to the State Department as part of its consultation on the project, the Environmental Protection Agency stated that tar sands crude oil "is substantially more

carbon intensive than reference crudes and its use will significantly contribute to carbon pollution." *Id.*

The State Department concluded that the annual lifecycle emissions associated with the 830,000 barrels per day of tar sands crude oil that would be transported by Keystone XL would be 147 to 168 million metric tons of carbon dioxide equivalent. Compl., Ex. B at 10. For reference, that amount of carbon is equivalent to the annual greenhouse gas emissions of 31 to 35 million cars, or 42 to 48 coal-fired power plants.[4] Although the State Department assumed that the oil from Keystone XL would replace, rather than add to, the existing oil refined at U.S. refineries, it still found that the incremental increase in greenhouse gases would be up to 27.4 million metric tons of carbon dioxide equivalent, an amount corresponding to the emissions from 5.7 million cars or 7.8 coal-fired power plants per year. *Id.*

TransCanada claims that the State Department found that oil from the project would not significantly affect the climate, Compl. ¶ 56, but that is not what the Record of Decision says. Rather, the State Department acknowledged that the construction of Keystone XL could have an effect on the expansion of tar sands production if other pipelines were not built and if the price of oil made other types of transportation, such as rail, uneconomical. *Id.*, Ex. B at 11-13. As the Record of Decision acknowledges, the dramatic drop in oil prices since the completion of the EIS in 2014 has slowed tar sands production considerably, *id.*, a development that highlights the difficulty of predicting

[4] These numbers were calculated on a proportional basis from the figures given by the State Department. *See* Compl., Ex. B at 10.

the investment decisions of tar sands producers and supports the conclusion that Keystone XL would significantly affect the climate by increasing tar sands exploitation.

The State Department ultimately concluded that approval of Keystone XL "would facilitate transportation into our country of a highly carbon intensive energy source." *Id.*, Ex. B at 29-30. The State Department further determined that climate change poses a serious threat to the nation, causing "more frequent and intense droughts, floods, and storm surges in some regions; rising sea levels; and impacts on a host of habitats that support communities and livelihoods." *Id.*, Ex. B at 26.

TransCanada complains that the State Department has never denied an international oil pipeline on this basis before, *id.* ¶¶ 112-116, but that, even if true, proves nothing. The current scientific consensus on the devastating effects of climate change and the dangers of tar sands extraction compels action now to prevent further harm to our climate. When the State Department made its decision in 2015, the previous year of 2014 was the hottest year on record. *Id.*, Ex. B at 26. At the time this brief was filed, 2015 was the hottest year on record, and February 2016 was the hottest February on record, indicating that 2016 may set a new record.[5] Indeed, fifteen of the sixteen hottest years on record have occurred since 2000,[6] a fact that highlights the need for immediate action to combat the threat of climate disruption.

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[5] NOAA National Centers for Environmental Information, *State of the Climate: Global Analysis for Annual 2015*, Jan. 2016, http://www.ncdc.noaa.gov/sotc/global/201513 (Ex. 7); NOAA National Centers for Environmental Information, *State of the Climate: Global Analysis for February 2016*, March 2016, https://www.ncdc.noaa.gov/sotc/global/201602 (Ex. 8).

[6] NOAA, *State of the Climate: Global Analysis for Annual 2015*, *supra* note 5.

In short, the record belies TransCanada's claim that Keystone XL would not affect greenhouse gas emissions. By TransCanada's own admission, the pipeline would have been one of the "largest oil pipelines in the United States." Compl. ¶ 3. Rather than being "purely symbolic," *id.* ¶ 58, the denial of the permit blocked the transportation—and in turn the refining and extraction—of 830,000 barrels of tar sands crude oil a day, an amount that would create emissions equal to millions of cars per year, regardless of how those emissions are counted. In light of these effects, the State Department correctly concluded that approval of Keystone XL was not in the national interest.

C. Keystone XL would have worsened air pollution in vulnerable communities near Gulf Coast refineries

The oil from Keystone XL would have ended up in refineries on the Gulf Coast, where it would have exacerbated the serious air quality problems in that region. At least fifteen refineries—in Lake Charles, Louisiana, and in Port Arthur, Beaumont, Texas City, and Houston, Texas—would have had direct connections to Keystone XL, and thus would have had easy access to the oil it would have transported. Final SEIS at 4.15-83. Many other refineries would have had indirect access to Keystone XL oil. *Id.* at 4.15-84. The State Department evaluated the potential exacerbation of air pollution that could occur at these refineries and relied on that analysis in denying the permit. Compl., Ex. B at 16.

Compared to conventional crudes, tar sands crude oil releases higher levels of harmful air pollutants when refined because it requires more energy to refine and contains higher levels of sulfur and toxic metals. Final SEIS at 4.14-30, 4.15-80.

Furthermore, the diluents used to dilute tar sands, which would also be processed in Gulf Coast refineries, emit high levels of volatile organic compounds (VOCs), *id.* at 4.15-80, which react with other pollutants to form ozone.[7]

These air pollutants cause serious health effects, especially for children and the elderly. Sulfur dioxide emissions can exacerbate asthma, and studies have shown a connection between short-term exposure and increased hospital visits and admissions for respiratory diseases.[8] Sulfur dioxide can also react with other compounds in the atmosphere to form tiny particles that penetrate deep into the lungs, and that can cause emphysema, bronchitis, and heart disease.[9] VOCs, which are released during the refining of diluent, react with other pollutants to form ozone, the main ingredient in "smog."[10] Ozone can trigger chest pain, coughing, throat irritation, and airway inflammation. Over the long term, ozone pollution can harm lung tissue and worsen bronchitis, emphysema, and asthma.[11]

Although many refineries in the Gulf Coast already process heavy crude oils, Keystone XL could have increased emissions in the region in two ways. First, if the new

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[7] U.S. Environmental Protection Agency, *Ozone Pollution, Ozone Basics*, https://www.epa.gov/ozone-pollution/ozone-basics#effects, last updated March 4, 2016 (Ex. 9).

[8] U.S. Environmental Protection Agency, *Sulfur Dioxide, Health*, https://www3.epa.gov/airquality/sulfurdioxide/health.html, last updated Feb. 23, 2016 (Ex. 10).

[9] *Id.*

[10] EPA, *Ozone Pollution*, *supra* note 7.

[11] *Id.*

oil were *additional* to what is already being refined, it would create *additional* air pollution. As a whole, Gulf Coast refineries are not operating at capacity, Final SEIS at 1.4-22, so they could process more crude if it were available. Second, even if refineries were at capacity, the additional crude from Keystone XL could induce construction of new refineries, expansion of existing refineries, or retooling of refineries that currently process lighter crudes. *Id.* at 4.15-79.

Keystone XL's potential air quality impacts raised serious environmental justice concerns. Megan O'Rourke, *The Keystone Xl Pipeline: Charting the Course to Energy Security or Environmental Jeopardy?*, 24 Vill. Envtl. L.J. 149, 163-65 (2013) (Ex. 11). Throughout the nation, people of color and low-income people are more likely to live near industrial sources of pollution, and that is especially true in the Gulf Coast. For example, the population of Port Arthur, Texas, is 45 percent African American, and many of Port Arthur's residents live near refineries (as well as other sources of air pollution, such as waste incinerators and chemical plants). O'Rourke, *supra*, at 164. Not surprisingly, Port Arthur's air quality ranks in the worst percentile for hazardous air pollutants. *Id.*

Similarly, in Houston, the populations living near refineries and other industrial pollution sources along the Houston Shipping Chanel are disproportionally Latino and African American. For example, the Harrisburg/Manchester neighborhood is 88 percent Latino, and the Clinton Park neighborhood is over 90 percent African

American.[12] Both neighborhoods have double the rate of poverty of the surrounding county.[13] These communities are two of the most polluted in the region and already suffer from far greater levels of associated health problems, such as cancer and respiratory diseases.[14] Keystone XL would have delivered dirty tar sands crude oil directly to refineries in these communities, thus contributing further to the disparities in health. The State Department correctly concluded that increasing pollution in these already overburdened communities was not in the national interest.

D. Keystone XL posed unacceptable risks to our nation's waters from spills and construction impacts

The transport of tar sands crude oil by Keystone XL, as well as the construction of the pipeline itself, would have threatened numerous lakes, rivers, streams, and aquifers. On its path from Montana to Nebraska, Keystone XL would have traversed 1,073 water bodies, 24 miles of floodplains, and 383 acres of wetlands. Compl., Ex. B at 17. Although TransCanada proposed to drill under the largest rivers, it planned to cross most rivers and streams using "open-cut" methods, which involve excavating a trench in the stream bed while water is flowing. *Id.*, Ex. B at 17, 19. Those methods would damage creeks and rivers by causing changes to the stream bed, sediment pollution,

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[12] Heidi L. Bethel, Ph.D. et al, *A Closer Look at Air Pollution in Houston: Identifying Priority Health Risks: A Summary of the Report of the Mayor's Task Force on the Health Effects of Air Pollution*, at 8, 10-11, https://www3.epa.gov/ttnchie1/conference/ei16/session6/bethel.pdf (Ex. 12).

[13] *Id.*

[14] *Id.*

riparian vegetation loss, and the spread of non-native, invasive species. Final SEIS at 4.3-4.

Once built, the pipeline would be at continuous risk of leaking or rupturing, and a spill near any of the 1,000-plus water bodies on the proposed path would be disastrous. As explained above, once extracted, the thick bitumen must be diluted with various chemicals to make it fluid enough to be pumped through a pipeline. Watmore, *supra*, at 179-80. Even so, diluted bitumen is still much heavier than conventional crudes, requiring higher temperatures and pressure to move it through pipelines. *Id.* at 180. Additionally, it is more corrosive and abrasive to pipelines than conventional crudes. *Id.* These qualities make tar sands pipelines more likely to rupture. *Id.*

Making matters worse, diluted bitumen is extremely difficult to clean up after a spill—much more so than conventional crudes. The lighter diluent volatilizes into the air or dissolves into the water, leaving the heavy bitumen behind. *Id.* at 181-82; Compl., Ex. B at 13. When conventional oil spills, most of the oil floats at the top and can be cleaned up by skimming the surface. Watmore, *supra*, at 181-82. Bitumen, on the other hand, is heavier than water and tends to sink to the bottom of rivers and lakes, where it mixes with sediments. *Id.*; Final SEIS at 4.13-41, 4.13-47. The vast majority of any spilled oil would not naturally attenuate and would require active cleanup, which could take on the "order of tens of years." Compl., Ex. B at 14. The sunken bitumen left behind would be a "continual source of oil," causing long-term pollution. Final SEIS at 4.13-41.

A tar sands spill near a lake, river, or stream could be devastating for wildlife. Compl., Ex. B at 14. Spilled oil would contaminate habitats and smother animals—

especially birds—making it impossible for them to feed, breathe, move, and keep warm. Final SEIS at 4.13-44. Beyond those direct effects, a tar sands spill in water would harm nutrient cycling and reduce dissolved oxygen. Compl., Ex. B at 13-14. Oil spills can also directly harm people by fouling drinking water supplies and recreational resources. Final SEIS at 4.13-45.

The pipeline would have similarly imperiled critical groundwater reserves. Groundwater in the areas along the proposed path is typically less than 50 feet below the surface, Final SEIS at 4.13-73, and even a small spill could reach that depth, *id.* at 4.13-4. If completed as planned, the pipeline would have put over 1,200 wells at risk, most of them in Nebraska. *Id.* at 4.13-72; Compl., Ex. B at 14. Most troublingly, Keystone XL would have crossed over the Ogallala aquifer in Nebraska. O'Rourke, *supra*, at 160. Because the area has a shallow water table and porous sand, it is particularly susceptible to contamination from oil spills. *Id.* Pollution of the groundwater in this region would be catastrophic: approximately 1.5 million people and nearly 20 percent of the nation's irrigated farmland rely on the Ogallala aquifer for water. *Id.* at 160-61. The State Department properly concluded that the risk Keystone XL would pose to our water was not in the national interest.

E. Keystone XL would have harmed wildlife along its route

Constructing and operating a three-foot-wide crude oil pipeline—especially one that will carry tar sands—across three states is a major undertaking, and one that entails significant disruption to local habitats. TransCanada proposed a 110-foot-wide construction easement and a 50-foot-wide permanent right of way for the 1,204-mile

length of the pipeline. Compl., Ex. B at 6-7. It also planned to build various ancillary facilities, including extensive access roads and 20 pumping stations, along the route. *Id.*, Ex. B at 7. In total, construction of the pipeline would have affected 15,296 acres, or roughly 24 square miles, of land in Montana, South Dakota, and Nebraska. *Id.*, Ex. B at 19. The potential impacts to wildlife from construction and maintenance activities in these areas include habitat loss and fragmentation; direct deaths from vehicle and power line collisions; indirect deaths and reduced breeding success from exposure to noise and other human activity; and reduced survival and reproduction from loss of food sources. Final SEIS at 4.6-1 to 4.6-2; *see also* Compl., Ex. B at 18-19.

Because it would have affected such a large amount of land, Keystone XL would have imperiled many species of wildlife. At the time of the decision, thirteen species that were listed as threatened or endangered under the Endangered Species Act, and two species that were candidates for listing, lived in the project area. Compl., Ex. B at 17. The State Department concluded that the pipeline would likely harm the endangered American burying beetle. *Id.* It also found that Keystone XL "could potentially . . . affect[]" the other protected or candidate species in the project area, including two mammals (the black-footed ferret and northern long-eared bat), an ancient fish (the pallid sturgeon), and a rare flower (the Western prairie fringed orchid). *Id.*

Birds would have been hit especially hard; numerous protected or candidate species were found in the project area: the interior least tern, whooping crane, rufa red

knot, piping plover, greater sage-grouse,[15] and Sprague's pipit. *Id.*, Ex. B at 17-18. Many of these species are iconic birds of the Great Plains. Although the State Department decided that the project "likely" would not adversely affect these species, it could not rule out impacts. Final SEIS at 4.8-4, Table 4.8-1 (stating that the project "may" affect these species).

Keystone XL also would have harmed many other species that are not protected under the Endangered Species Act, but that are nonetheless biologically and economically important. The construction and operation of the pipeline would have affected deer, elk, pronghorn antelope, wolves, mountain lions, badgers, porcupine, and other animals present along the route. Final SEIS at 4.6-7 to 4.6-9. It also would have harmed many raptors and migratory birds found in the project area, including ducks, eagles, hawks, falcons, and osprey. *Id.* at 4.6-9, 4.6-12 to 4.6-13. In light of the potential for serious harm to wildlife along the 1,204-mile-long route, the State Department correctly determined that Keystone XL was not in the national interest.

II. The State Department properly rejected Keystone XL to show that the United States is taking action on climate change and to encourage other nations to do the same

Climate change is fundamentally a global problem. A large percentage of greenhouse gas emissions occur outside of the United States, so the extent to which other nations take action to reduce their emissions will influence how much climate

[15] The U.S. Fish and Wildlife Service has since declined to list the greater sage-grouse under the Endangered Species Act.

change harms the United States. Compl., Ex. B at 31. These facts make coordinated international action on this issue critical. *Id.*

In 2014, the U.S. national security community determined that climate change is a serious national security threat that will "aggravate stressors abroad such as poverty, environmental degradation, political instability, and social tensions." *Id.*, Ex. B at 26. The United States is not the only country that has so concluded—70 percent of nations have found that climate change is a national security threat, including many of our allies, such as the United Kingdom, Germany, and France. *Id.*

The State Department also noted that denying the permit would have virtually no negative impacts on the nation. It would not impair our energy independence, affect gasoline prices, harm U.S.-Canada relations, or significantly affect the economy (because the project would have created 35 full-time permanent jobs at most). *Id.*, Ex. B at 29-30. In short, approval of the pipeline would have no positive impact on the United States as a whole—rather, the benefits would flow solely to TransCanada.

In light of the above, the State Department determined, based on its expertise in foreign policy, that denying the permit for Keystone XL would further the national interest by strengthening U.S. climate leadership and helping persuade other nations to reduce greenhouse gases. *Id.*, Ex. B at 31. Specifically, the State Department found that "U.S. credibility on the fight to combat climate change" is "a major factor in determining U.S. foreign policy success." *Id.*, Ex. B at 26; *id.*, Ex. B at 27 (stating that "strong U.S. domestic policy to combat climate change sets an important example for other countries and puts an 'action speaks louder than words' credibility behind the

U.S. message"). It also cited two specific examples involving China, in which U.S. action on climate change spurred corresponding Chinese action. *Id.*, Ex. B at 27.

The president, concurring with the State Department's decision, pointed out that he would be attending the upcoming international climate negotiations in Paris. He stated that the United States must "lead by example," and that we must "hold ourselves to the same high standards to which we hold the rest of the world." *Id.*, Ex. A at 4. And indeed, in December 2015, 190 countries reached a historic agreement on climate change in Paris.[16] It is much less likely that such an agreement would have been reached, or would have been as strong, if Keystone XL had been approved.

TransCanada denigrates this basis for denial as merely being about the "international community's perception," Compl. ¶ 116, but the decision had nothing to do with perceptions and everything to do with reality. The United States cannot demand reductions from other countries while simultaneously permitting construction of one of the largest oil pipelines in the world, especially one that would transport the world's dirtiest oil. The concerns cited by the State Department in its Record of Decision implicate foreign policy and national security issues of the highest level. Indeed, our future as a nation depends on how our country, and others, will address the most pressing environmental issue of our time. The State Department correctly determined that Keystone XL was not in the national interest.

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[16] The White House, *U.S. Leadership and the Historic Paris Agreement to Combat Climate Change*, Dec. 12, 2015, https://www.whitehouse.gov/the-press-office/2015/12/12/us-leadership-and-historic-paris-agreement-combat-climate-change (Ex. 13).

CONCLUSION

For the foregoing reasons, the Court should grant the State Department's motion and dismiss TransCanada's complaint.

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CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States District Court for the Southern District of Texas by using the appellate CM/ECF system on April 7, 2016.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

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